Bilateral disciform keratitis in Reiter's syndrome

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Reiter's syndrome is commonly associated with conjunctivitis and rarely with uveitis. Bilateral disciform keratitis at presentation is a very rare manifestation in Reiter's syndrome. A 13-year-old boy developed bilateral disciform keratitis with oligoarthritis following an episode of conjunctivitis. In addition he had suspected bacterial keratitis with hypopyon in the left eye as a possible secondary infection of an epithelial defect that is a feature of Reiter's keratitis. Empirical treatment with intensive topical antibiotics as a therapeutic trial completely resolved the hypopyon and the disciform keratitis settled with topical steroid treatment. The patient achieved a best corrected vision of 20/20 in both the eyes 6 weeks after the treatment. Bilateral disciform keratitis can occur as a complication of Reiter's syndrome. Also the possibility of secondary infection of the epithelial defect needs to be borne in mind.

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Reiter's syndrome (RS) also known as reactive arthritis develops in 1%–3% of men after a nonspecific urethritis, up to 4% of persons after enteric infection caused by *Campylobacter*, *Salmonella*, and *Shigella*.[1] In 1916 Hans Reiter described the syndrome characterized by the triad of urethritis, conjunctivitis, and arthritis. However, incomplete forms with just one or two of the classic triad are more frequent than the full syndrome.[2] Generally, RS tends to occur between the age of 15–40 years and is associated with the human leukocyte antigen B27 (HLA B27) in approximately 75%–90% of the patients.[3]

Common ocular manifestations in RS are conjunctivitis and uveitis. Corneal involvement is rare and not well recognized as a complication of RS. In this case report we describe an unusual corneal involvement in both the eyes of a patient with RS that has not been reported before.

Case Report

A 13-year-old boy was referred for management of left microbial keratitis by a general ophthalmologist. The patient had presented with 3 days history of painful left eye associated with loss of vision. Prior to this acute symptom a month earlier he was treated by a local doctor for suspected viral conjunctivitis in both the eyes that settled after 10 days. Subsequently, the patient noted gradual reduction of vision in both the eyes with painful knee joints. As the left eye became painful and red in the last 3 days the patient reported to the nearby ophthalmologist.

On examination he had best spectacle corrected vision of 20/80 OD and FC 1 m OS. Slit-lamp examination revealed disciform keratitis with normal corneal epithelium in the right eye [Fig. 1a]. There were no cells in the anterior chamber nor were any keratic precipitates. The left eye revealed very swollen corneal stroma in the form of a large disc almost involving the entire cornea associated with a small ragged epithelial defect in the para-central part of cornea [Fig. 1b, arrow]. The edge of the epithelial defect had a faint whitish infiltrate. The anterior chamber showed a small hypopyon with numerous cells in the anterior chamber.

Based on the finding, a diagnosis of bilateral disciform keratitis was made with suspected bacterial keratitis in the left eye. As the patient was already using moxifloxacin eye drops 0.5% in the left eye and was feeling better, corneal scraping was not attempted. The patient was admitted and treated with prednisolone 1% eye drops 6 times a day in the right eye. The left was treated with moxifloxacin (0.5%) eye drops every hour and atropine (1%) eye drops 3 times a day. He was also put on oral acyclovir (400 mg) twice daily. The patient was referred to a rheumatologist for the knee joint pain.

The patient was found to have inflammatory arthritis of both the knee joints and arthritis of the right ankle joint. His ESR was 90 mm/h. He was found to be positive for HLA B27. A diagnosis of Reiter's syndrome was made by the rheumatologist and the patient was treated with oral NSAID. The oral acyclovir was stopped.

Within 3 days of treatment the epithelial defect healed with disappearance of the infiltrate and hypopyon in the left eye. The moxifloaxcin drops were reduced to 4 times daily and prednisolone eye drops were started 6 times daily in the left eye. Over the next 10 days the corneal lesions reduced gradually and the patient was discharged home. The steroid drops were tapered gradually. The appearance of both the cornea 2 weeks after presentation is shown in Fig. 2a and b.

In the last checkup 6 weeks later his best corrected vision was 20/20 in both the eyes. Both the cornea appeared normal.

Discussion

The most common ocular manifestation of RS is conjunctivitis[4] followed by anterior uveitis.[4] Uncommon ocular involvement described are episcleritis, scleritis, keratitis, disc edema, retinal edema, and retinal vasculitis.[4,5] Keratitis is thought to be rare as an initial manifestation but was found as high as 64% in recurrent Reiter's syndrome.[6]

Anterior stromal keratitis, affecting mainly the peripheral cornea, and associated with ragged epithelial erosions, is a rare but characteristic finding in RS.[4,7,8] Disciform keratitis was reported only once in one of the eyes in 1982.[9] Mark and McCulley[9] had reported 3 cases of keratitis associated with RS. The typical keratitis as described above was noted in 2 cases. In the third case both the eyes developed large central corneal epithelial defect associated with dense anterior stromal infiltrate. Giemsa's staining of the left corneal scrape revealed basophilic, intracytoplasmic inclusions. The authors concluded the possibility of chlamydial disease. A month later disciform keratitis was noted in the left eye. In the right eye the patient was treated with prednisolone eye drops. A few days later hypopyon developed and prednisolone was discontinued. Further treatment was not discussed. The authors did not mention the possible cause of hypopyon. Antigen–antibody reaction leading to hypersensitivity to bacterial antigen was thought to be the reason for disciform keratitis in the left eye. It subsided spontaneously over 4 weeks.

Our patient had bilateral disciform keratitis at presentation, to the best of our knowledge that has not been reported previously. Although Kiss *et al*.[6] reported keratitis in 16 out of 25 patients in chronic RS, the authors have not described the nature of the corneal lesions. In our patient the disciform keratitis settled well following topical and oral prednisolone

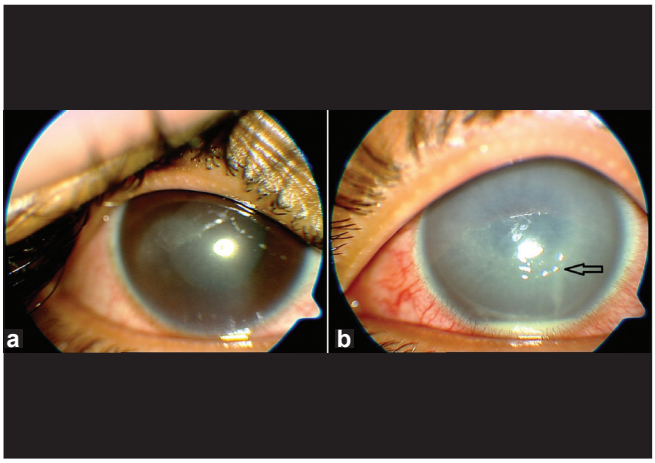

Figure 1: (a) Disciform keratitis (OD), (b) Disciform keratitis with small epithelial defect (OS) (arrow)

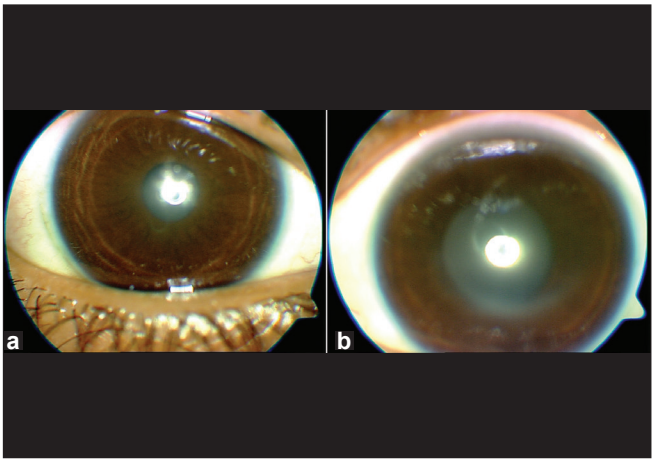

Figure 2: (a) Two weeks later (OD), (b) Two weeks later (OS)

treatment. We felt the hypopyon in the left eye was due to secondary infection of the characteristic epithelial erosion that is seen in RS. We could not prove the secondary infection by microbiological investigations as the patient was already responding to topical moxifloxacin. Empirical treatment with topical moxifloxacin as a therapeutic trial resulted in rapid resolution of the infiltrate and the hypopyon.

In conclusion, Reiter's syndrome has to be considered in the differential diagnoses in cases presenting with bilateral disciform keratitis. In addition, secondary infection of the epithelial erosions can occur as a complication in RS, especially in India where the risk for microbial infection is high and that needs to be borne in mind.

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References

1. Yli-Kertulla UI. Clinical characteristics in male and female uro-arthritis or Reiter's syndrome. Clin Rheumatol 1984;3:351-60.
2. Doherty M, Ralston SH. Musculoskeletal disease. In: Colledge NR, Walker BR, Ralston SH, editors. Davidson's Principles and Practice of Medicine. Churchill Livingstone; 2010. p. 1094.
3. Keat A. Reiter's syndrome and reactive arthritis in perspective. N Eng J Med 1988;309:1606-15
4. Lee DA, Barker SM, Su WP, Allen GL, Liesegang TJ, Ustrup DM. The clinical diagnosis of Reiter's syndrome. Ophthalmic and non ophthalmic aspects. Ophthalmology 1986;93:350-6.
5. Conway RM, Graham SL, Lassere M. Incomplete Reiter's syndrome with focal involvement of the posterior segment. Aust N Z J Ophthalmol 1995;23:63-6.
6. Kiss S, Letko E, Qamruddin S, Baltatzis S, Foster S. Long term progression, prognosis, and treatment of patients with recurrent ocular manifestations of Reiter's syndrome. Ophthalmology 2003;110:1764-9.
7. Rowson NL, Dart JK. Keratitis in Reiter's syndrome. Br J Ophthalmol 1992;76:126.
8. Wiggins RE, Steinhuller PG, Hamill MB. Reiter's keratoconjunctivitis. Arch Ophthalmol 1990;108:280-1.
9. Mark DB, McCully JB. Reiter's keratitis. Arch Ophthalmol 1982;100:781-4.